ISAP 2009

November 8-12th, 2009

Curitiba - Brazil

Final Program

Instructions for Session Chairs

Session Chairs are asked to collect their packs from the registration desk well before their session. To ensure running of the conference, Session Chair are kindly asked to strictly respect the schedule.

An evaluation form should be completed for each session by the Session Chair and left at the registration desk.

Instructions for Authors

Authors are kindly requested to meet their Session Chairs in the session room a few minutes before the scheduled time in order to download their presentation to the computer. The files can be downloaded to the computer from a USB key or a CD-ROM.

They have to provide the Chair with a PowerPoint or PDF presentation, as well as a short (50 words maximum) printed biography.

General Information

Conference Venue
Positivo University (Universidade Positivo)
Building: Bloco Azul
Address:
Rua Prof. Viriato Parigot de Souza 5300 – Curitiba

Front Desk and Information
The registration desk Will be open on the following dates and times:

Monday	Nov. 9th	8:30 am – 6:00 pm
Tuesday	Nov. 10th	8:30 am – 6:00 pm
Wednesday	Nov. 11th	8:30 am – 6:00 pm
Thursday	Nov. 12th	8:30 am – 3:00 pm

Conference Proceedings and Delegate Badges
Each registered participant will receive one copy of the pen-drive proceedings along with this Conference brochure and a delegate badges.

Designated Smoking Areas
Please note the Brazilian smoking policy dictates that you cannot smoke inside buildings. Please observe signs for designated smoking areas. You can smoke in external areas.

Electricity
The standard power supply is 127 Volts. Electric adapters are available from the porter's lodge.

Currency
The official currency of the Brazil is the Real (R$) and you can exchange most common foreign currencies at banks, travel agencies or in the hotel front desk.

About Curitiba
Curitiba is also a world-wide example in urbanism solutions, education and environment. This Brazilian metropolis, in southern Brazil, was nominated as the American Capital of Cultural 2003, an initiative of the Organization of the American States (OEA).
City of eclectic culture and of strong influence from the European immigrants. This is mainly noticed in the city's architecture, gastronomy and religion. The Metropolitan Cathedral of Curitiba, erected in 1894, was inspired by that of Barcelona.
Curitiba has become world renowned for its innovative urban solutions, winning a UNESCO prize for its urban development. Its integrated transport planning is responsible for an effective infrastructure that makes bus travel fast and convenient.

Lunches
Lunches will be provided for the Conference included in the registration fee to all registered participants at the Red Positivo University Restaurant.
Catering facilities will be available at the same place all day long.

Official Hotels
The official hotels of the conference are: Quality Curitiba Hotel, Mercure Apartments Curitiba Golden, and Lizon Curitiba Hotel.

Transportation
The conference will provide the transportation by bus between the official hotels of the conference and Positivo University (UP). Two lines are available following dates and times:

Line 1 – Between Quality Curitiba Hotel and Mercure Apartments Curitiba Golden and UP

Monday	Nov. 9th	8:15 am and 11:15 am
Tuesday	Nov. 10th	8:15 am
Wednesday	Nov. 11th	8:15 am
Thursday	Nov. 12th	8:15 am

Line 2 – Between Lizon Curitiba Hotel and UP

Monday	Nov. 9th	8:15 am and 11:00 am
Tuesday	Nov. 10th	8:15 am
Wednesday	Nov. 11th	8:15 am
Thursday	Nov. 12th	8:15 am

In the end of the day, a tour and a dinner will be provided by the conference. After that, buses will provide the transportation to the official hotels.

Conference Tours and Dinners
Three tours will be provided with any kind of charge for the delegates. After the conference activities on Monday and Tuesday, small tours in Barigui Park and Opera de Arame Theatre (around 1 hour) will occur. And then special dinners will be offer for the delegates.
On Wednesday, the traditional ISAP Conference Tour will occur starting at 2:30 pm. Botanical Garden, Pope John Paul II Forest, Free University of the Environment, Cathedral, Federal University of Paraná, Guaira Theater, Oscar Niemayer Museum, among others will be visited. After that we will have the Conference Banquet.

Post-Tour Conference
The post-tour conference starts on Nov. 12th with the air travel between Curitiba and Foz do Iguacu (around 1 hour). The best option for that is the flight GOL (Brazilian Airlines) Prefix G3 1224 with departure time 5:50 pm (arrival time: 6:50 pm).
The tour schedule for Friday (Nov 13th) is in the morning time visit to Itaipu Power Plant, and in the afternoon visit Iguacu Falls. These two visits take all day long. On Saturday, you can flight to Curitiba or to your departure city (São Paulo or Rio de Janeiro) directly.
Schultz Turismo is the travel agency in charge of the post-tour conference. For reservations, please contact them directly by marianna@schultzturismo.com.br.

At a glance – Conference Schedule and Technical Program

	Sunday 11/8	Monday 11/9	Tuesday 11/10	Wednesday 11/11	Thursday 11/12	Friday 11/13
9:00 -10:00 AM		Tutorial	Panel 1	Talk 2	Panel 2	Post- Tour Conference
10 AM -12 PM			TS 9,10,11,12	TS20,21,22,23	TS28,29,30	
		Lunch				Itaipu Power Plant And Iguacu Falls (in Foz do Iguacu)
1:30 - 2:30 PM	Short-Course for Brazilian Students	Opening Session	Talk 1	TS24,25,26,27	TS31,32,33,34	
2:30 - 3:30 PM		TS 1,2,3,4	TS13,14,15,16		Closing Session	
3:30 - 4:00 PM		Coffee Break		City Tour		
4:00 - 5:00 PM		TS 5,6,7,8	TS17,18,19			
5:00 - 6:00 PM		Tribute to Prof. Alain Germond	ISAP Council Meeting			
6:00 - 7:30 PM		Tour #1	Tour #2			
7:30 - 9:30 PM		Welcome Dinner	Local Committee Offering Dinner	Conference Dinner		

Tutorial - Advanced Computational Intelligence Methods for Power Systems Monitoring, Control and Optimization, by Prof. G. Kumar Venayagamoorthy

Opening Session – Talk: Non-reflexive Logics, by Prof. N.C. da Costa

Tribute to Prof. Alain Germond – Organized by D. Niebur

Panel 1 – Applying Intelligent Systems in Microgrids – Organizing by Prof. Koichi Nara
Panel 2 – Contributions of Intelligent Systems on Smart Grids – Organizing by K. Tomsovic

Talk 1 – Kernel Adaptive Filtering, by Prof. J.C. Principe
Talk 2 – From Multi-Agent Systems to Mixed Systems of Cognitive and Human Agents: Evolution, Potential and Applications, by J.P. Barthès

Technical Program of the Conference
(by Paper ID)

Technical Session – TS1
65, #305 , #446

Technical Session – TS2
329, #392, #770

Technical Session – TS3
137, # 215, #272

Technical Session – TS4
71, #383, #749

Technical Session – TS5
212, #623, #755

Technical Session – TS6
173, #407, #452

Technical Session – TS7
119, #146, #311

Technical Session – TS8
500, #632, #665

Technical Session – TS9
95, #98, #107, #422, #626, #695

Technical Session – TS10
233, #290, #338, #413, #551, #557

Technical Session – TS11
131, #176, #191, #275, #440, #491

Technical Session – TS12
125, #134, #167, # 380, #533, #599

Technical Session – TS13
155, #461, #578

Technical Session – TS14
164, #236, #296

Technical Session – TS15
68, #158, #269

Technical Session – TS16
350, #353, #758

Technical Session – TS17
116, #323, #374, # 386, #635, #722

Technical Session – TS18
281, #437, #506, #629, #704, # 719

Technical Session – TS19
227, #302, #326, # 341, #686, #692

Technical Session – TS20
401, #542, #674, #314, #716, #773

Technical Session – TS21
#419, #473, #494, #560, #590, # 737

Technical Session – TS22
287, #476, #638, # 746, #761, #767

Technical Session – TS23
101, #299, #278, #356, # 647

Technical Session – TS24
434, #485, #554

Technical Session – TS25
161, #512, #521

Technical Session – TS26
332, #389, #398

Technical Session – TS27
479, #515, #752

Technical Session – TS28
251, #482, #536, #581, #644, #743

Technical Session – TS29
221, #293, #509, #518, #566, #740

Technical Session – TS30
200, #245, #317, #488, #662

Technical Session – TS31
608, #707, #710

Technical Session – TS32
371, #698, #776

Technical Session – TS33
152, #254, #671

Technical Session – TS34
404, #458, #464

Tutorial for Brazilian Students

This tutorial, sponsored by the ISAP 2009 Local Committee, will divide in two parts.

The first part will provide an introduction to the basic considerations associated with power system operation and planning fundamentals to Computer Science undergraduate students, and in parallel basic considerations associated to Artificial Intelligence techniques to Electrical Engineering undergraduate students.

The second part all students will be grouped for a lecture about Intelligent System Applications to Power Systems.

This tutorial occurs in Portuguese at Technical Federal University of Parana (UFTPR) on Sunday between 2 pm until 5 pm.

	Topics	Lectures
2 – 4 pm	Power Systems to Computer Science undergraduate students	Dr. Milton Pires Ramos TECPAR
2 – 4 pm	Artificial Intelligence to Electrical Engineering undergraduate students.	Prof. Odilon Luis Tortelli UFPR
4 – 5 pm	Intelligent System Applications to Power Systems	Prof. Thelma Solange Piazza Fernandes - UFPR

Tutorial

Advanced Computational Intelligence Methods for Power Systems Monitoring, Control and Optimization

Lecture: Ganesh Kumar Venayagamoorthy

Monday, 11/09, 9:00 AM – 12:00 PM, Auditorium

The electric power grid is a complex adaptive system under semi-autonomous distributed control. It is spatially and temporally complex, non-convex, nonlinear and non-stationary with a lot of uncertainties. The integration of renewable energy such as wind farms, and plug-in vehicles further adds complexity and challenges to the various operations, decision making and controls at all levels of the power grid – generation, transmission and distribution. Advanced computational methods are required for planning, monitoring, control and optimization of power system operations. This tutorial will first describe the basic and advanced methods of computational intelligence (CI) and then the CI applications for monitoring, control and optimization of power systems.

Panel Session 1

Current Status of Operation and Control in Microgrid Systems

Chair: K. Nara (Fukushima National College of Technology, Japan)

Panelists: H. Nakama (NEDO, Japan), H. Mori (Meiji University, Japan), T. Funabashi (Meidensha Corporation, Japan)

Tuesday, 11/10, 9:00 – 10:00 AM, Auditorium

This panel discusses the current status of operation and control in microgrid systems. They play an important role to improve supply reliability and save the operation cost under competitive environment. Experiences are addressed in microgrid projects in Japan and Brail. In addition, applications of intelligent systems to microgrids are discussed to smooth operation and control.

Panel Session 2

Contributions of Intelligent Systems on Smart Grids

Chairs: Kevin Tomsovic (University of Tennessee - Knoxville) and Dagmar Niebur (Drexel University)

Panelist: Zita Vale (University of Porto), Dave Cartes (Florida State University), Mike Dolan (University of Strathclyde), Fran Li and Kevin Tomsovic, University of Tennessee

Thursday, 11/12, 9:00 – 10:00 AM, Auditorium

As a result of the shift to renewable and distributed generation the operation and management of the electric power system must change radically. There is a drive towards distributing power system control and intelligence throughout the network, providing a new set of network control functions. To deliver the Smart Grid a wide range of high level independent functions need to be developed and integrated. These include: active network management (encompassing voltage control, frequency control, reactive power control, losses minimization and thermal constraint management); transmission/distribution automation providing reconfiguration and restoration; smart metering; and condition monitoring. In addition, data and information architectures are required to support the new functions and applications. This panel session will describe practical examples where distributed intelligence and related technologies have been used to deliver Smart Grid functions.

Plenary Session 1

Non-Reflexive Logics

Newton C.A. da Costa

Monday, 11/09, 1:30 – 2:30 PM, Auditorium

Non-reflexive logics are logics in which certain forms of the principle of identity do not hold in general. We examine some of the motivations for, and the central aspects of, these logics. We discuss a few challenges to their development, and their philosophical applications. Non-reflexive logics offer a rich field of inquiry, with possible practical applications, like other non classical logics.

Plenary Session 2

Kernel Adaptive Filtering

Jose C. Principe

Tuesday, 11/10, 1:30 – 2:30 PM, Auditorium

This talk describes a principled approach to extend adaptive filtering to Reproducing kernel Hilbert spaces (RKHS), implementing nonlinear filters in the data space with linear algorithms in RKHS. We show that the Kernel Least Mean Squares (KLMS) is well posed in the sense of Hadamard, and therefore does not need explicit regularization. The class of kernel affine projection algorithms (KAPA) shares the same property. As a consequence, much simpler on-line kernel algorithms are possible using this methodology. We also extend to RKHS the well known RLS algorithm that achieves one order of magnitude faster convergence than LMS. Several examples of nonlinear signal processing will be illustrated with this methodology.

Plenary Session 3

From Multi-Agent Systems to Mixed Systems of Cognitive and Human Agents: Evolution, Potential and Applications

Jean-Paul Barthes

Wednesday, 11/11, 9:00 – 10:00 AM, Auditorium

Motivation: "Where do agents come from?", "What kind of MAS do we have?", "What are the possibilities and the problems?". Brief History of Agents from the point of view of AI. Types of MAS from reactive agents to cognitive agents. Agents vs Objects (and web services). Requirement and Features: Connection to control systems, Reasoning possibilities, Connection to cell phones, H/MAS interaction, Multilingual context, and Indexing information automatically. Discussions of several problems. Presentation of different real applications.

Tribute to Prof. Alain Germond (1943 – 2009)

Organized by Dagmar Niebur - Drexel University

- Open to Contributions -

Alain J. Germond (IEEE Member) obtained the M.Sc. in 1966 and the Ph.D. in Electrical Engineering in 1975 from the Swiss Federal Institute of Technology, Lausanne, Switzerland (EPFL).

In 1974 he joined Systems Control Inc. Palo Alto, California where together with Robin Podmore he developed ground-breaking techniques for dynamic external equivalents of generators which up to today are essential for dynamic system simulation studies. Dr. Germond's research interests were in power systems numerical analysis, reliability analysis, dynamic equivalents, numerical simulation and optimization of power transmission and distribution systems, application of artificial intelligence techniques to power systems and market models. He is the author of over a hundred peer-reviewed publications and has advised more than 15 PhD and 80 MS students.

He was a member of the Technical Steering Committee of the International Conference on Intelligent System Applications to Power Systems, a member of CIGRE Study Committee 38 and convenor of the CIGRE Advisory Group on Applications of Intelligent Systems to Power Systems, member of the Committee of the Swiss Society for Energy Technologies (ETG) and the Swiss Association of Electrical Engineers (ASE) (1989-1994), member of the Council of PSCC, the Power System Computation Conference and a member of the Advisory Editorial Board of "International Journal of Electrical Power and Energy Systems." He also served as Chair of the Executive Board of the University Enterprise Partnership in Electric Energy Systems (1996–2002).

As a member of the Federal Commission of Fellowships for Foreign Scholars he has hosted and worked with numerous students and scholars, including many Russian exchange students. His collaborative research with Russian researchers focused on control of large scale power systems using real-time measurements and tests of the Siberian transmission system.

His professional achievements were recognized with the Diplôme d'honneur du Comité Technique de la CIGRE, 1996 and the IEEE Third Millennium Medal, 2000.

Alain J. Germond passed away August 7, 2009. He was 65 years old.

Monday – 11/09

TS1 – Distribution Systems (I)
Monday, 11/09, 2:30 – 3:30 PM, Auditorium

#65 – Methodology to Works Prioritization in the Distribution System
Cleverson Luiz da Silva Pinto, Luis Carlos Barioni de Oliveira, Luiz Carlos Matioli, and Yuan Jin Yun

#305 - Classification of Events in Distribution Networks using Autonomous Neural Models
André Eugênio Lazzaretti, Vitor Hugo Ferreira, Hugo Vieira Neto, Rodrigo Jardim Riella, and Julio Omori

#446 - Development a BDI-based Intelligent Agent Architecture for Distribution Systems Restoration Planning
Yen-Tsung Pan, and Men-Shen Tsai

TS2 – Fault Location and Protection
Monday, 11/09, 2:30 – 3:30 PM, Room #4

#329 - Fault Location and Voltage Estimation in Transmission Systems by Evolutionary Algorithms
Wilingthon Guerra, and Nelson Kagan

#392 - Adaptive Strategies in the Power Systems Protection using Artificial Intelligence Techniques
Annelise Bittencourt, Michel Carvalho, and Jacqueline Rolim

#770 - Frequency Relaying based on Genetic Algorithm using FPGAs
D. V. Coury, A. C. B. Delbem, E. V. Simões, T. V. Silva, J. R. de Carvalho, and D. Barbosa

TS3 – Wind Power Plants
Monday, 11/09, 2:30 – 3:30 PM, Room #5

#137 - An Artificial Neural Network Approach for Short-Term Wind Power Forecasting in Portugal
João Catalão, Hugo Pousinho, and Victor Mendes

#215 - New Method based in Particle Swarm Optimization for Power Factor Remote Control and Loss Minimization in Power Systems with Wind Farms Connected
Clóvis Oliveira, Manoel Firmino Medeiros Jr., and José Tavares Oliveira

#272 - Application of Advanced Particle Swarm Optimization Techniques to Wind-thermal Coordination
S.N. Singh, Jacob Ostergaard, and J. Yadagiri

TS4 – Control Stabilizer
Monday, 11/09, 2:30 – 3:30 PM, Room #6

#71 - Simplified Fuzzy Logic Controller and its Application as a Power System Stabilizer
Miguel Ramirez-Gonzalez, and Om P. Malik

#383 - Comparative Study of Population Based Techniques for Power System Stabilizer Design
Pinaki Mitra, Chuan Yan, Lisa Grant, G. Kumar Venayagamoorthy, and Komla Folly

#749 - Particle Swarm Optimization Tuned Flatness-Based Generator Excitation Controller
E.C. Anene, G. K. Venayagamoorthy, and U.O. Aliyu

TS5 – New Trends (I)
Monday, 11/09, 4:00 – 5:00 PM, Auditorium

#212 - Multi-Agent System for Coordinated Control of FACTS Devices
Ulf Häger, S. Lehnhoff, C. Rehtanz, and Horst F. Wedde

#623 - Electric and Magnetic Fields Estimation for Live Transmission Line Right of Way Workers Using Artificial Neural Network
Chokri Belhadj Ahmed, and Sami El-Ferik

#755 – Artificial Neural Network based Losses Model Losses due to Power Subsystems Energy Exchange
J. Ortega, H. Maia, Faete Filho, J. Pinto, and L. Muller

TS6 – Special Supply
Monday, 11/09, 4:00 – 5:00 PM, Room #4

#173 - Railway Power Supply Investment Decisions considering the Voltage Drops - Assuming the Future Traffic to be known
Lars Abrahamsson, and Lennart Söder

#407 - 2-DOF Fuzzy Schemes for Combustion Turbogenerator Wide-Range Speed Control
Raul Garduno, Arnulfo Martinez, and Luis Castelo

#452 - Optimal Generator Start-Up Strategy for Power System Restoration
Wei Sun, Chen-Ching Liu, and Ron F. Chu

TS7 – Monitoring
Monday, 11/09, 4:00 – 5:00 PM, Room #5

#311 - An Introduction to the Echo State Network and its Applications in Power System
Jing Dai, G. K. Venayagamoorthy, and Ronald Harley

#119 - Parameter Estimation through a Genetic Algorithm
Edwin Meza, Julio Souza, and Milton Do Coutto Filho

#146 - Study on Fast Control Algorithm Based on Integrative Sensitivity Analysis
Baohui Zhang, Linyan Cheng, Zhiguo Hao, Peng Li, Andrew Klimek, and Zhiqian Bo

TS8 – Market & Price (I)
Monday, 11/09, 4:00 – 5:00 PM, Room #5

#500 - Business Intelligence and Energy Markets: a Survey
Liliana Argotte, Manuel Mejia-Lavalle, and Ricardo Sosa

#632 - Using of Data Mining and Soft Computing Techniques for Modeling Bidding Prices in Power Markets
Martha Camargo, Diana Jiménez, and Luis Gallego

#665 - Bidding Prices Modeling in Colombian Electricity Market using Logistic Regression Model
Diana Jimenez Agudelo, Luis Gallego Vega, and Martha Camargo Martinez

Tuesday – 11/10

TS9 – Transient Stability & OPF
Tuesday, 11/10, 10:00 AM – 12:00 PM, Auditorium

#95 - Probabilistic Dynamic TTC Calculation with Decision Tree Classification
Nattawut Paensuwan, and Akihiko Yokoyama

#98 - Adaptive Evolutionary Programming with Neural Network for Transient Stability Constrained Optimal Power Flow
Kritsana Tangpatiphan, and Akihiko Yokoyama

#107 - Transient Stability Assessment using ANN Considering Power System Topology Changes
Ayman Hoballah, and István Erlich

#422 - Wavelet Based Kernel Fisher Classifier For Ferroresonance Identification
Geev Mokryani

#626 - Concepts of Aspect-Oriented Modeling Applied to Optimal Power Flow Problems
Daniele A. Barbosa, Leonardo M. Honório, Armando M. Leite da Silva, and Cristina V. Lopes

#695 - Lagrangian method based on population Applied to Optimal Power Flow Problems
Daniele A. Barbosa, Leonardo M. Honório, and Armando M. Leite da Silva

TS10 – Control Centers (I)
Tuesday, 11/10, 10:00 AM – 12:00 PM, Room #1

#233 - Cyber-Ambient Intelligent Training of Operators in Power Systems Control Centres
Luiz Faria, António Silva, Carlos Ramos, and Zita Vale

#290 - DefPlans: Agent Modeling Techniques for Power System Emergency Control
Emanuele Ciapessoni, and Edoardo Corsetti

#338 - Short-Term Load Forecasting Using Semigroup Based System-Type Neural Network
Kwang Y. Lee, and Shu Du

#413 - Uncertainties in Power Flow Analyzed via a Fuzzy Number Based Method
Luciano Barboza, Rogério Vargas, and Charles Farias

#551 - Pseudo-geographical Representations of Power System Buses by Multidimensional Scaling
Florence Belmudes, Damien Ernst, and Louis Wehenkel

#557 - A New Probabilistic Load Flow Method Using MCMC in Consideration of Nodal Load Correlation
Hiroyuki Mori, and Wenjun Jiang

TS11 – Renewable Sources
Tuesday, 11/10, 10:00 AM – 12:00 PM, Room #2

#131 - Fuzzy Multi-Sets and Multi-Rules: Analysis of Hybrid Systems concerning Renewable Sources with Conventional and Flow Batteries
Alexandre Barin, Luciane Canha, Alzenira Abaide, and Karine Magnago

#176 - Generation Scheduling of Thermal Units Integrated with Wind-Battery System Using a Fuzzy Modified Differential Evolution Approach
Shantanu Chakraborty, Tomonobu Senjyu, Atsushi Yona, Ahmed Y. Saber, and Toshihisa Funabashi

#191 - A Fuzzy Control Based Coordinated Method for Isolated Power Utility Connected Clustered Photovoltaic Systems to Provide Frequency Control
Manoj Datta, Tomonobu Senjyu, Atsushi Yona, and Toshihisa Funabashi

#275 - Feasibility of Artificial Neural Network for Maximum Power Point Estimation of Non Crystalline-Si Photovoltaic Modules
Syafaruddin, Engin Karatepe, and Takashi Hiyama

#440 - Expert System for Component Selection of Self-sufficient and Regenerative Electricity Supply Systems with Hydrogen Storage
Maike Stark, Matthias Hausmann, and Gerhard Krost

#491 - Short to Medium Range Time Series Prediction of Solar Irradiance Using an Echo State Network
Stephen Ruffing, and Ganesh Kumar Venayagamoorthy

TS12 – Voltage Stability and Control (I)
Tuesday, 11/10, 10:00 AM – 12:00 PM, Room #3

#125 - Optimal Load Shedding for Voltage Stability Enhancement by Ant Colony Optimization
Worawat Nakawiro, and Istvan Erlich

#134 - Multiobjective Power System Optimization Including Security Constraints
Jiasi Kong, and Benjamin Jeyasurya

#167 - Critical Contingencies Ranking for Dynamic Security Assessment using Neural Networks
Juan Manuel Gimenez Alvarez

#380 - Cellular Multilayer Perceptron Neural Network for System Voltage Predictions
Lisa Grant, and G. Kumar Venayagamoorthy

#533 - Integration of Parallel EPSO and Variable TS for Unit Commitment with Nonsmooth Fuel Cost Functions
Hiroyuki Mori, and Kenta Okawa

#599 - Real-time Transient Instability Detection Based on Decision Trees
Yi Zhang, and Kevin Tomsovic

TS13 – Distribution (II)
Tuesday, 11/10, 2:30 – 3:30 PM, Auditorium

#155 - Fast Non-Technical Losses Identification Through Optimum-Path Forest
Caio Ramos, Andre Souza, Joao Papa, and Alexandre Falcao

#461 - Network Reconfiguration of Distribution Systems Using Metaheuristics and Reliability Measures
Armando Martins Leite da Silva, Luiz Carlos Nascimento, Agnelo Marotta Cassula, Cleber Esteves Sacramento, and Afonso Ferreira Ávila

#578 - Investment Prioritizing in Distribution Systems Based on Multi Objective Genetic Algorithm
Walerio Moreira, Fernando Mussoi, and Raimundo Teive

TS14 – Security Assessment
Tuesday, 11/10, 2:30 – 3:30 PM, Room #4

#164 - Power System Dynamic Security Assessment through a Neuro-Fuzzy Scheme
Tatiana Assis, Alexandre Nohara, and Talita Valentini

#236 - A Genetic Algorithm Approach for the Analysis of Electric Grid Interdiction with Line Switching
Jose Arroyo, and Francisco Fernandez

#296 - Neuro-Fuzzy Decision Trees for Dynamic Security Control of Power Systems
Athanasios Bikas, Emmanouil Voumvoulakis, and Nikos Hatziargyriou

TS15 – Market & Price (II)
Tuesday, 11/10, 2:30 – 3:30 PM, Room #5

#68 - Neural Networks and Wavelet Transform for Short-Term Electricity Prices Forecasting
João Catalão, Hugo Pousinho, and Victor Mendes

#158 - Electricity Market Prices: An Indicator of Market Power ?
Javier De La Cruz Soto and Guillermo Gutiérrez Alcaraz

#269 - Machine Learning Applications for Load, Price and Wind Power Prediction in Power Systems
Michael Negnevitsky, Paras Mandal, and Anurag Srivastava

TS16 – Power Plant
Tuesday, 11/10, 2:30 – 3:30 PM, Room #6

#350 - Distributed Discrete Event and Psuedo Real-time Combined Simulation for Multi-agent Controlled Power Plants
Joel Van Sickel, and Kwang Lee

#353 - Real-time Based Agent Architecture for Power Plant Control
Joel Van Sickel, and Kwang Lee

#758 - Fuzzy Diagnostic Systems of Rotating Machineries, some ELETRONORTE's applications
Marcelo Moutinho

TS17 – Voltage Stability and Control (II)
Tuesday, 11/10, 4:00 – 6:00 PM, Auditorium

#106 - Dynamic Economic Load Dispatch by Calculus of Variation and Genetic Algorithm Considering Ramp Rate
Kentaro Asano, Masahiro Nakatsuka, and Teruhisa Kumano

#323 - Reactive Power Planning Using a Two-level optimizer Based on Multi-objective Algorithms
Zhihuan Li, Miroslav Begovic, and Xianzhong Duan

#374 - Fuzzy Logic Control Application to Enhance Voltage Stability of the Electric Power Systems
James Momoh, Wenjie Zheng, and Keisha D'Arnaud

#386 - Minimization of Voltage Deviations, Power Losses and Control Actions in a Transmission Power System
Yoel Raul Rosales, and Takashi Hiyama

#635 - Automatic Tap Voltage Regulator Connected in Closed Delta
Marcus Rodrigo Carvalho, Marcelo Nanni, Bruno Yukio Enomoto, and Carlos Cesar Barioni Oliveira

#722 - Comparison of Post Outage Bus Voltage Magnitudes Estimated by Harmony Search and Differential Evolution Methods
Oguzhan Ceylan, Aydogan Ozdemir, and Hasan Dag

TS18 – Planning
Tuesday, 11/10, 4:00 – 6:00 PM, Room #4

#281 - Fuzzy Guided Constructive Heuristic Applied to Transmission Expansion Planning
Aldir S. Sousa and Eduardo N. Asada

#437 - Artificial Immune Systems and Differential Evolution Based Approaches Applied to Multi-Stage Transmission Expansion Planning
Leandro S. Rezende, Armando M. Leite da Silva, and Leonardo M. Honório

#506 - Specialized Genetic Algorithm for Transmission Network Expansion Planning Considering Reliability
Lina P. Garces, and Rubén A. Romero

#629 – Short-Term Transmission Expansion Planning by a Combined Genetic Algorithm and Hill-Climbing Technique
Jorge Rodriguez, Djalma Falcão, Glauco Taranto, and Heraldo Almeida

#704 - Genetic Algorithm in Colombian Operative Planning
Jaime A Valencia, Walter M. Villa, Esteban Velilla, Giovanni Marín, Mónica M. Montoya, and José I. Gutiérrez

#719 - Transmission Network Expansion Planning by a Hybrid Simulated Annealing Algorithm
M. Cortés Carmona, R. Palma Behnke, and O. Moya

TS19 – Maintenance
Tuesday, 11/10, 4:00 – 6:00 PM, Room #5

#227 - Automating the Diagnosis of Occurrences in Power Plants Using Data from DFR and Sequence of Events: An Expert System Based Methodology
Miguel Moreto, Jacqueline G. Rolim, and Fernando S. Varela

#302 - On-line Transformer Condition Monitoring through Diagnostics and Anomaly Detection
Victoria Catterson, Susan Rudd, Stephen McArthur, and Graham Moss

#326 - Asset Management Into Practice: A Case Study of A Brazilian Electrical Energy Utility
João Lúcio, José Tapias, and Raimundo Teive

#341 - Intelligent Agent-based Environment to Coordinate Maintenance Schedule Discussions
Mauro A. Rosa, Armando M. Leite da Silva, Vladimiro Miranda, Manuel Matos, Gerald Sheblé

#686 - Extraction of Knowledge from Artificial Neural Networks to Application in Analysis of Transformers
Márcio Amora, Otacílio Almeida, Arthur Braga, Fábio Rocha, Sérgio Lima, and Luciano Lisboa

#692 - Artificial Neural Network Application in Estimation of Dissolved Gases in Insulating Mineral Oil from Physical-Chemical Datas
Fábio Rocha Barbosa, Francisco A.P. Aragão, Arthur P.S. Braga, Cícero M. Tavares, Otacílio M. Almeida, Paulo R.O. Braga, and Márcio A.B. Amora

Wednesday – 11/11

TS20 – Voltage Stability and Control (III)
Wednesday, 11/11, 10:00 AM – 12:00 PM, Auditorium

#401 - Approximate Loading Margin Methods Using Artificial Neural Networks in Power Systems
Arthit Sode-Yome, and Kwang Y. Lee

#542 - Multi-objective Optimal Allocations of SVR in Distribution Networks
Hiroyuki Mori, and Takafumi Yoshida

#674 - Capacitor Placement Using Ant Colony Optimization and Gradient
Max Pimentel Filho, Estéfane Lacerda, Manoel Medeiros Junior

#314 - Applications of Neural Networks and Decision Trees to Energy Management System functions
Enrico Borioli, Emanuele Ciapessoni, Diego Cirio, and Enrico Gaglioti

#716 - A Hybrid Intelligent System for Estimating a Load Margin to Saddle Node Bifurcation Point of Voltage Stability
Hiroyuki Mori, and Naoto Ishibashi

#773 - Optimal Capacitor Placement considering Voltage Stability Margin based on improved PSO Algorithm
Taegyun Kim, Yunhwan Lee, Byongjun Lee, Hwachang Song, and Taekyun Kim

TS21 – Market & Price (II)
Wednesday, 11/11, 10:00 AM – 12:00 PM, Room #1

#419 - Compare Two Learning Algorithms in Modelling the Generator's Learning Ability
Zhifeng Qiu, Fjo De Ridder, Eefje Peters, Geert Deconinck, and Ronnie Belmans

#473 - Generation Reliability Evaluation in Power Markets Using Monte Carlo Simulation and Neural Networks
Hossein Haroonabadi, and Mahmood-Reza Haghifam

#494 - Demand Response in Electricity Markets
Athina Tellidou, and Anastasios Bakirtzis

#560 - MASCEM - An Electricity Market Simulator providing Coalition Support for Virtual Power Producers
Pedro Oliveira, Tiago Pinto, Hugo Morais, Zita Vale, and Isabel Praça

#590 - ANN based Day-Ahead Spinning Reserve Forecast for Electricity Market Simulation
Pedro Faria, Zita Vale, Hussein Khodr, and João Soares

#737 - A Game Theoretic Framework for Generation Maintenance Scheduling in Oligopolistic Electricity Markets
Mohammad Ali Fotouhi, and Seyyed Masoud Moghaddas Tafreshi

TS22 – Power Quality
Wednesday, 11/11, 10:00 AM – 12:00 PM, Room #2

#287 - Allocation of Power Quality Monitors by Genetic Algorithms and Fuzzy Sets Theory
Carlos Frederico M. Almeida, and Nelson Kagan

#476 - ICA-based Method for Power Quality Disturbance Analysis
Danton Ferreira, José Seixas, and Augusto Cerqueira

#638 - An Alternative Pre-processing Technique Applied to Power Quality Disturbances Identification
Ricardo Fernandes, Ricardo Rabêlo, Breno Silva, Mário Oleskovicz, Adriano Carneiro, and Ivan Silva

#746 - Software Based on LabView for Monitoring and Analysis Some Power Quality Parameters
Michele de Nazaré Novaes Santos, Ricardo Salgado Fadul, Rogério Diogne de Souza Silva, and Maria Emília de Lima Tostes

#761 - Data Mining of Building Electrical Information Based on Radial Basis Function Neural Network
Norman C F Tse, Wing W Y Ng, T T Chow, John Chan, L L Lai, Daniel S Yeung, and Jincheng Li

#767 - New Approach to Harmonic Overvoltages Reduction during Transformer Energization via Controlled Switching
Abbas Ketabi, Rene Feuillet, and Iman Sadeghkhani

TS23 – Control Centers (II)
Wednesday, 11/11, 10:00 AM – 12:00 PM, Room #3

#101 - Forecaster of Loads Profile in Power Electric Systems based on Paraconsistent Annotated logic
Luís Fernando P. Ferrara, João Inácio Da Silva Filho, Alexandre Rocco, Germano Lambert-Torres, Fernan-do Brandini Blanco, and Marcos Rosa Santos

#299 – Integrating an Agent-based Wireless Sensor Network within an Existing Multi-agent Condition Monitoring System
P.C. Baker, V.M. Catterson, and S.D.J. McArthur

#278 - Principle Areas for Islanding Operation based on Distribution Factor Matrix
Anuar M.A.Anuar, Ugyen Dorji, and Takashi Hiyama

#356 - Power System Fault Data Compression Wavelet Parametric Investigation
Bruno Marchesi, André Lazzaretti, and Rodrigo Riella

#647 - Reasoning about Control Situations in Power Systems
Arshad Saleem, and Morten Lind

TS24 – Restoration
Wednesday, 11/11, 1:30 – 2:30 PM, Auditorium

#554 - Comparison between PSO and GA in System Restoration Solution
Germano Lambert-Torres, Helga Gonzaga Martins, Maurilio P. Coutinho, Carlos H. V. Moraes, Camila P. Salomon, Felipe Minato, Rômulo Carminati

#434 - Estimation of Temporary Overvoltages during Power System Restoration using Artificial Neural Network
Abbas Ketabi, and Iman Sadeghkhani

#485 - Intelligent Distributed Restoration by Multi-Agent System Concept in DAS
Il-Hyung Lim, Myeon-Song Choi, Seung-Jae Lee, and Tae-Wan Kim

TS25 – Power Electronics
Wednesday, 11/11, 1:30 – 2:30 PM, Room #4

#161 - Comparison of Enhanced-PSO and Classical Optimization Methods: a case study for STATCOM placement
Yamille del Valle, Ganesh Venayagamoorthy, and Ronald Harley

#512 - TCSC Controller Design using Global Optimization for Stability Analysis of Single Machine Infinite-Bus Power System
Rashmi Vikal, and Garima Goyal

#521 - Implementation of Inverse Neural Control To VSC Converter for Active and Reactive Power Flow
Freddy Alexander Forero, Mauricio Andres Molina, Jose Guillermo Guarnizo, and Harold Rene Chamorro

TS26 – New Trends (II)
Wednesday, 11/11, 1:30 – 2:30 PM, Room #5

#332 - Unfavorable effect KP on power system and Artificial Intelligent alarm system for it
Mina Ghoorchian, GholamReza Zandesh, and Farnaz Foroughian

#389 - Road Tunnels Lighting using Genetic Algorithms
Eduardo Solteiro Pires, Paulo de Moura Oliveira, and Sérgio Leitão

#398 - MLPN based Parameter Estimation to Evaluate Overhead Power Line Dynamic Thermal Rating
Yi Yang, Ronald Harley, Deepak Divan, and Thomas Habetler

TS27 – Diagnosis
Wednesday, 11/11, 1:30 – 2:30 PM, Room #6

#479 - Decision Support System for Diagnosis of Power Transformers
Leonardo Santos, Marley Vellasco, and Ricardo Tanscheit

#515 - PROMETHEE and Fuzzy PROMETHEE Multicriteria Methods for Ranking Equipment Failure Modes
Marcela Moreira, Carlos Dupont, and Marley Vellasco

#752 - Fraud Detection in Electric Energy Using Diffe- rential Evolution
Ângelo Brun, João Pinto, Alexandra Pinto, Leandro Sauer, and Evando Colman

Thursday – 11/12

TS28 – Load Forecasting
Thursday, 11/12, 10:00 AM – 12:00 PM, Auditorium

#251 - Very Short-Term Load Forecasting Based on ARIMA Model and Intelligent Systems
Luciano Carli M. de Andrade, and Ivan Nunes da Silva

#482 - Load Forecasting Of a Desert: A Computational Intelligence Approach
Ahmed Saber, and Abdulaziz Al-Shareef

#536 - Short-Term Load Forecasting Based on LS-SVM Optimized by Bacterial Colony Chemotaxis Algorithm
Zhi-biao Shi, and Yang Li

#581 - Power Demand Forecast Using Least-Squares Support Vector Machines
Leandro Coelho, and Carlos Klein

#644 - Automatic Kernel Based Models for Short Term Load Forecasting
Vitor Hugo Ferreira, and Alexandre P. Alves da Silva

#743 - Demand Forecasting for Control of the Use of Transmission System for Electric Distribution Utilities
Vitor Hugo Ferreira, Alexandre Rasi Aoki, and Silvio Michel de Rocco

TS29 – Distributed Generation (I)
Thursday, 11/12, 10:00 AM – 12:00 PM, Room #1

#221 - Distributed Generation Impact Evaluation using a Multiobjective Tabu Search
Renan Maciel, and Antonio Padilha-Feltrin

#293 - The Use of Constraint Programming for the Autonomous Management of Power Flows
Euan Davidson, Michael Dolan, Stephen McArthur, and Graham Ault

#509 - A Heuristic Technique for Scheduling a Customer-Driven Residential Distributed Energy Resource Installation
Josune Armas, and Siddharth Suryanarayanan

#518 - Ant Colony Systems Application for Electric Distribution Network Planning
Johan Alvarado, Efren Alvarado, Miguel Arevalo, Patricio Quituisaca, Juan Gomez, and Paulo de Oliveira de Jesus

#566 - A Multi-agent Based Service Restoration in Distribution Network with Distributed Generations
Yuan-Liang Lo, Chin-Hsien Wang, and Chan-Nan Lu

#740 - Optimal Distributed Generation Location and Sizing using Genetic Algorithms
Ioana Pisica, Constantin Bulac, and Mircea Eremia

TS30 – Scheduling
Thursday, 11/12, 10:00 AM – 12:00 PM, Room #2

#200 - Day-Ahead Self-Scheduling of Thermal Generator in Competitive Electricity Market Using Hybrid PSO
N. M. Pindoriya, S. N. Singh, and J. Østergaard

#245 - A New Quantum-Inspired Binary PSO for Thermal Unit Commitment Problems
Yun-Won Jeong, Jong-Bae Park, Se-Hwan Jang, and Kwang Y. Lee

#317 - Incorporated Multi-Stage Nash Equilibriums for the Generation Allocation Problem Considering Ramp Rate Effects
Yong-Gi Park, Jong-Bae Park, Wook Kim, and Kwang Y. Lee

#488 - Heuristic Algorithms for Solving Convex and Nonconvex Economic Dispatch
Yusuf Yare, Ganesh Kumar Venayagamoorthy, and Ahmed Saber

#662 - Solving Economic Load Dispatch Problem by Natural Computing Intelligent Systems
Richard Goncalves, Carolina Almeida, Josiel Kuk, and Myriam Delgado

TS31 – Control Centers (III)
Thursday, 11/12, 1:30 – 2:30 PM, Auditorium

#608 - An Intelligent Assistant for Power Plants based on Factored MDPs
Alberto Reyes, Matthijs Spaan, and Enrique Sucar

#707 - Three-Dimensional Location of Electromagnetic Sources using Intelligent Systems
Rafael Hernán Mira Pérez, and Jesús Antonio Hernández Riveros

#710 - High Order Contingency Selection Using Particle Swarm Optimization and Tabu Search
Fangxing Li, and Ashwini Chegu

TS32 – New Trends (III)
Thursday, 11/12, 1:30 – 2:30 PM, Room #4

#371 - Framework for Multi-Agent System (MAS) Detection and Control of Arcing of Shipboard Electric Power Systems
James Momoh, Keisha Alfred, and Yan Xia

#698 - Verifying the Use of Evolving Fuzzy Systems for Multi-step Ahead Daily Inflow Forecasting
Ivette Luna, Secundino Soares, João Eduardo Lopes, and Rosangela Ballini

#776 - Evaluation of Hurricane Impact on Composite System Reliability Using Fuzzy Expert System
Chanan Singh, and Yong Liu

TS33 – New Trends (IV)
Thursday, 11/12, 1:30 – 2:30 PM, Room #5

#152 - Implementing Intelligent Techniques for the Advanced Alarm Processing
Yufan Guan, and Mladen Kezunovic

#254 - 3D virtual models applied in power substation projects
Jorge Quintana, and Eliel Mendoza

#671 - Spatial Electric Load Forecasting using a Local Movement Approach
Edgar Carreno, and Antonio Padilha

TS34 – Distributed Generation (II)
Thursday, 11/12, 1:30 – 2:30 PM, Room #6

#404 - Dynamic Analysis of Two Synchronous Machines Interconnected with a Distribution Network in ATP-EMTP
Fabricio Augusto Matheus Moura, Jose Roberto Camacho, Marcelo Lynce Ribeiro Chaves, and Geraldo Caixeta Guimarães

#458 - Control Agents for Real Microgrids
Aris Dimeas, and Nikos Hatziargyriou

#464 - Multi Objective Optimalisation of Smartgrid Structure
Peter Kadar